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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/737,378

12/16/2003

Masahiro Kawaguchi

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EXAMINER

DWIVEDI, VIKANSHA S

ART UNIT

PAPER NUMBER

3746

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/737,378	Applicant(s) KAWAGUCHI ET AL.	
	Examiner Vikansha S. Dwivedi	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/16/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 3, 5 and 13 rejected under 35 U.S.C. 102(b) as being anticipated by Sasaki et al. (U.S. Patent number 6,244,825 B1).

Sasaki et al. discloses a controller (20) of a vacuum pump (14) having a pump mechanism section that performs evacuation to set a space to be evacuated to a predetermined degree of vacuum (Background of the invention, lines 10-14), the improvement comprising an electric motor (16) section for driving said pump mechanism section (Detailed description of the preferred embodiment, lines 63-65), wherein, when an increase in load torque of said vacuum pump per unit time abruptly changes upward, deceleration control to decrease a rotational speed of said electric motor section is carried out (Column 2 line 63 thru Column 3 lines 1-2); wherein said load torque of said vacuum pump is calculated based on a value of a current supplied to said electric motor section (Column 3, lines 19-25); wherein said increase in load torque of said vacuum pump per unit time is monitored repeatedly at a predetermined time interval and that monitoring is continued even after it is determined that said increase in load torque of said vacuum pump per unit time has increased abruptly (Column 3, lines 35-45); wherein, when said increase in load torque of said vacuum pump per unit time is

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greater than a predetermined value, it is determined that said increase in load torque of said vacuum pump per unit time has abruptly changed upward and said deceleration control is carried out (Column 2 line 63 thru Column 3 lines 1-2); wherein a number of times said deceleration control is repeated is restricted (Column 4, lines 65-67); wherein said deceleration control is carried out to reduce said increase in load torque of said vacuum pump per unit time to a predetermined target value (Column 6, lines 4-15); wherein said electric motor section is controlled in such a way that said load torque of said vacuum pump does not exceed a predetermined upper limit (As shown in Figure 4, the load torque does not exceed the predetermined Allowable load).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al. (U.S. Patent number 6,244,825 B1) in view of Moller (U.S. Patent number 6,354,805) Sasaki et al. discloses the claimed invention substantially except an electric motor section being synchronous motor type or inductive motor type brushless motor. Moller discloses an electric motor which is a synchronous motor. Moller further discloses that if a synchronous motor is used instead of an asynchronous motor to drive the pump in the pump unit 7, temperature compensation can be omitted, because in the case of a synchronous motor no slip occurs (Paragraph 24). Therefore at the time of invention it

would have been obvious to modify the controller as disclosed by Sasaki et al. in view of the synchronous motor disclosed by Moller to have a durable control system.

Claim 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al. (U.S. Patent number 6,244,825 B1) in view of Japanese Patent Publication number 9-306972 or applicant's admitted prior art.

Sasaki et al. discloses the claimed invention substantially except load-lock chamber provided side-by-side with respect to a process chamber in a semiconductor production apparatus is said space to be exhausted by said vacuum pump. Japanese Patent Publication discloses load-lock chamber provided side-by-side with respect to a process chamber in a semiconductor production apparatus. It should be noted that applicant has not provided any specific purpose for the claimed location and the prior art of record is fully capable of performing the desired function.

Claim 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al. (U.S. Patent number 6,244,825 B1) in view of Anastos et al. (U.S. Patent number 5,076,763)

Sasaki et al. discloses the claimed invention substantially except controlling change over per unit time and monitoring at a predetermined time interval. Anastos et al. teaches a controller responsive to a timer for pump control (Summary of invention lines 30-69). To monitor variables(For example current) of a controller over a set period of time and then change it accordingly to keep the variables (For example current) within a certain interval is done to protect the system by avoiding the variable to reach a value that might be dangerous to the system and keep it within a predetermined interval.

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Anastos et al. teaches a controller responsive to a timer for pump control and within the same field of endeavor as Sasaki et al. and applicant's claimed invention therefore it would have been obvious to modify the controller as disclosed by Sasaki et al. in view of Anastos et al. to control the upset in the electrical conditions of the pump system and thereby ensuring a smooth function without failure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vikansha S. Dwivedi whose telephone number is 571-272-7834. The examiner can normally be reached on M-F, 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy S. Thorpe can be reached on 571-272-4444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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